**Common Core Aligned Lesson Plan Template**

**Subject(s): Biology Grade: 9**

**Teacher(s): Mrs. Whitney, Mrs. Rauvenpoor School: Buffalo Academy of the Sacred Heart**

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| **LESSON ELEMENT** | **STUDENT-FRIENDLY TRANSLATION**  **( # 2,3,4 only)** |
| 1. Common Core Learning Standard(s) Addressed:  * **Reading Standards for Science/Technology, grade 9-10, standard 1**   Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions.   * **Reading Standards for Science/Technology, grade 9-10, standard 2**   Determine the central ideas or conclusions of a text; trace the text's explanation or depiction of a complex process, phenomenon, or concept; provide an accurate summary of the text.   * **Reading Standards for Science/Technology, grade 9-10, standard 2**   Translate quantitative or technical information expressed in words in a text into visual form (e.g., a table or chart) and translate information expressed visually or mathematically (e.g., in an equation) into words. | |
| 1. Learning Target(s): (What will students know & be able to do as a result of this lesson?)   Students will be able to:   * understand the direct and indirect effects of biological controls on an ecosystem. * evaluate and interpret information presented in different formats. * evaluate the ways in which format affects the subject’s impact of meaning. * collaboratively research, develop, and present information using digital mediums. * evaluate and assess the effectiveness of their work as a group. * evaluate and critique others’ work for effective conveyance of information. | You will be able to:   * understand how certain species can become invasive. * understand how biological controls can have undesired effects. * evaluate information in different kinds of formats. * Work as a group to research a chosen topic and develop a digital presentation of your choice. * evaluate how your group worked as a team. * evaluate others’ work for effective presentation of information. |

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| 1. Relevance/Rationale: (Why are the outcomes of this lesson important in the real world? Why are these outcomes essential for future learning?)   The introduction of non-native species, whether intentional or unintentional, can present serious threat to the biological diversity and ecological integrity of ecosystems throughout the world.  Today’s media savvy students use technology to compose and read texts, record and watch videos and podcasts, and compose digital posters and presentations. While students may use a great variety of formats to convey meaning, they may not fully grasp the impact format can have on the interpretation of information’s meaning. This lesson aims to assist students in their future selection of digital mediums to properly convey different forms of information and its intended meaning thereby increasing their ability to convey information effectively.  This lesson also encourages students to work collaboratively in an online environment towards a presentation goal. | You are a consumer and producer of information. You text, tweet, record videos and create digital posters and presentations. Different digital formats present information in a variety of ways and how you understand something can depend on how it’s presented to you. Knowing which digital medium to choose for a presentation of information will be a valuable skill in your educational career.  Working with others as a group in an online environment towards a goal of understanding and presenting your research is a critical 21st century skill. |
| 1. Formative Assessment Criteria for Success: (How will you & your students know if they have successfully met the outcomes? What specific criteria will be met in a successful product/process? What does success on this lesson’s outcomes look like?)   A successful outcome for this lesson is a thoughtfully arranged presentation. A clear explanation of the Problem/Solution/Second-Generation Problem path will showcase the students’ synthesis of information. | You will evaluate the effort and work of yourself and members of your team while you work together. You will also evaluate the projects each team presents with a group discussion at the end of the project. |
| 1. Activities/Tasks: (What learning experiences will students engage in? How will you use these learning experiences or their student products as formative assessment opportunities?)   Day 1: The students arrive in the LMC learning lab having had some classroom instruction about invasive species. The SLMS goes over the assignment with the students pointing out the design of the assignment which puts the students directly in control of their own learning. Students are given an overview of their class wiki and the general mechanics of working with a wiki as a collaborative learning space. The SLMS then models an invasive species presentation in order to clarify the expectations of the project. Finally, the SLMS models accessing the available resources for the project.  Day 2: The students will arrive in the LMC and be given a laptop for personal research use. The students will work in groups to access and extract information from the resources listed on the assignment guide and place it on the class wiki. The SLMS and the classroom teacher will be available to assist those who require extra help.  The classroom teacher will set a due date for the presentation. The research process will be documented as students use the wiki as a collaborative space for sharing information. In this way, the instructors will be able to monitor a group’s progress during the process. Likewise, the use of the class wiki for the presentation allows the instructor as well as the other groups to view and learn from the final product. When the projects are complete, students will view each groups presentation in a class meant for reflection and sharing. | |
| 1. Resources/Materials: (What texts, digital resources, & materials will be used in this lesson?)  * Wikis at <http://invasivespeciesi.wikispaces.com/>   <http://invasivespeciesii.wikispaces.com/>  <http://invasivespeciesiii.wikispaces.com/>   * **Resource Guide** web page at <http://www.myteacherpages.com/webpages/LBiniszkiewicz/mrs_whitney.cfm> * **Assignment Guide** found on the home page of any of the three wikis. * **Example Presentation** found on any of the three wikis in the left navigation pane. | |
| 1. Access for All: (How will you ensure that all students have access to and are able to engage appropriately in this lesson? Consider all aspects of student diversity.)   Laptops are available in the LMC for student use and the LMC is open to students throughout the academic day, during study halls, and one hour after school for students with no computer access at home. Students who may need extra help with the research, the mechanics of the wiki, or a presentation tool will have access to the librarian and the science teacher during the day at school and evenings and weekends through the wiki. | |
| 1. Modifications/Accommodations: (What curriculum modifications and/or classroom accommodations will you make for Students with Disabilities in your class? Be as specific as possible.)   The entire lesson is electronic which lends itself to modification for students with disabilities that can be addressed through assistive computer devices. With two instructors present during the lesson days, students requiring special assistance will be able to receive individualized attention.  Real-time | |

**Common Core Aligned Lesson: Reflection**

* Does this lesson reflect one of the “shifts” in instruction (see Common Core “Shifts” documents on EngageNY.org)? If so, please describe which shift is addressed and how?

This lesson plan reflects the ELA/Literacy Shift 2 in that students are building knowledge about current events through reading texts found in the databases and online rather than through teacher instruction.

This lesson plan also reflects the ELA/Literacy Shift 5 in that the digital presentations require students to analyze the research sources and find the evidence to inform the presentation.

* In addition, please choose ONE question below to respond to after you have taught the lesson OR create your own question and respond to it after you have taught the lesson.

1. How did this lesson support 21st Century Skills?

2.1.1 Continue an inquiry-based research process by applying critical thinking skills (analysis, synthesis, evaluation, organization) to information and knowledge in order to construct new understandings, draw conclusions, and create new knowledge.

3.1.2 Participate and collaborate as members of a social and intellectual network of learners.

3.2.3 Demonstrate teamwork by working productively with others.

1. How did this lesson reflect academic rigor?
2. How did this lesson cognitively engage students?
3. How did this lesson engage students in collaborative learning and enhance their collaborative learning skills?

You are also encouraged to use a facilitated “Learning from Student Work” protocol to review and reflect on student work related to this lesson.